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RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex Parte WOLFGANG SEMMLINGER, OTMAR FISCHER,
GUNTER ZOTT *and* RUDOLF HUBER.

Appeal 2010-004160
Application 10/595,791
Technology Center 1700

Oral Hearing Held: February 10, 2011

Before JEFFREY T. SMITH, BEVERLY A. FRANKLIN, and LINDA M. GAUDETTE, *Administrative Patent Judges*.

APPEARANCES:

ON BEHALF OF THE APPELLANT:

BRIAN DUNCAN, ESQUIRE
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The above-entitled matter came on for hearing on Thursday, February 10, 2011, commencing at 1:52 p.m., at the U.S. Patent and

1 Trademark Office, 600 Dulany Street, Alexandria, Virginia, before Cathy
2 Belka, a Notary Public.

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P R O C E E D I N G S

5 THE USHER: Calendar Number 57, Appeal Number 2010-4160,
6 Mr. Duncan.

7 JUDGE SMITH: Thank you.

8 Thank you, Mr. Duncan. Before you begin, do you -- can you provide
9 a business card to our transcriber?

10 MR. DUNCAN: Uh-oh. I'm sorry. I forgot to bring that today.

11 JUDGE SMITH: Okay then. Well, I'll get you to spell your name for
12 the record after we begin then. Today, this is a video hearing. Judge
13 Franklin is in a different part of the United States and is -- will appear on the
14 video screen to your right.

15 MR. DUNCAN: Hi.

16 JUDGE SMITH: And as we begin the proceeding, could you spell
17 your name for the record?

18 MR. DUNCAN: Sure. It's B-r-i-a-n Duncan, D-u-n-c-a-n.

19 JUDGE SMITH: All right, thank you, Mr. Duncan. As you're aware,
20 you have 20 minutes to present your argument, and you can begin when
21 you're ready.

22 MR. DUNCAN: Okay. Well, basically what the invention is directed
23 to is a friction welding machine and the process for operating a friction
24 welding machine. Basically, Claims 1 and 21 are directed to the machine
25 itself, and Claim 19 is directed to the process for operating the friction
26 welding machine.

1 Basically, the critical aspect or feature of the present invention which
2 is both in the process claim and the machine claims is that at least one
3 workpiece holder had a bridge and the importance of the bridge is that it
4 diverts forces that are created during the friction welding process, basically a
5 torque and a forge force, such that one of the spindles does not receive the
6 forge force and the torque, but basically what it does is it diverts the torque
7 so that the spindle is -- at least one spindle is relieved of the force. This
8 basically increases the longevity and service life of the spindle and also
9 allows for higher rotational speeds of the workforce because there is less
10 stress that's exerted on the torque. And basically, both references, *Takagi*
11 and *Farley, et al.*, aren't really addressing the problem of relieving stress or
12 diverting stress from the spindle, as featured in the present invention.
13 Basically --

14 JUDGE FRANKLIN: I'm sorry. I have a question. I guess the
15 Examiner, he believes that the Items 40 and 52 of the *Farley* reference
16 would relieve that stress on a spindle?

17 MR. DUNCAN: Right, that is the Examiner's position, and I was
18 going to get to that point in a little bit, but since you addressed it now, we
19 can talk about it. Basically, our position is that if you look at the Adapter
20 Plate 52 and the Actuator Block 40, there is no support that would allow the
21 actuator -- the adapter plate and the Actuator Block 40 to basically push
22 back and relieve the spindle of any stress that's created during the friction
23 welding process. Because basically what happens is that 33, which is the
24 spindle nose, is connected directly to the Chuck Assembly 12 and the
25 spindle nose is mounted on the Spindle 17, which can be seen in Figure 1 of
26 *Farley, et al.* So basically what happens is any torque that's created during

1 the friction welding process is diverted straight into the spindle due to the
2 direct connection of the chuck assembly to the spindle nose, which is then
3 mounted on the Spindle 17. So --

4 JUDGE FRANKLIN: Well, the Examiner, he uses a teaching in
5 column 3, starting around line 15, you know, that they agree that the actual
6 address is transferred to the Adapter Plate 52, and then into the Actuator
7 Block 40?

8 MR. DUNCAN: Right.

9 JUDGE FRANKLIN: He finished in his words, relieving stress off
10 the spindle.

11 MR. DUNCAN: Well, I don't see how -- our -- basically, our
12 argument in response to that is, basically, 40 -- the Actuator Block 40 and
13 the Adapter Plate 52 aren't supported anywhere to basically provide a
14 reactionary force to basically counteract any actual axial force that's created
15 during the friction welding process. In other words, if you look at the gaps
16 between the spindle nose and the actuator block, and also the spacer block
17 and the actuator block, basically, what happens is that this whole
18 arrangement is floating, so there is no way for 40 and 52 to, you know,
19 provide any relief to the spindle because there's no -- it's not supported on
20 the left-hand side, the actuator block and the adapter plate. So I don't -- our
21 position is how can it provide any relief if it's just sitting there floating in
22 space without being supported?

23 If you look, basically the Outer Chuck 36 provides the only axial
24 support for the actuator block and the Adapter Plate 52. So, basically, what
25 happens is that when friction -- the friction welding process is going on, this
26 whole thing moves to the left so that, you know, basically, a further

1 clamping force is provided and basically allows greater clamping force on
2 the workpiece. And this has nothing to do with relieving the stress or any
3 torque on the spindle itself. And that's basically our position in response to
4 that question. Basically, our position is since the Spindle Nose 33 is
5 connected directly to the chuck assembly and the spindle nose is mounted on
6 the Spindle 17, there's no way that the Adapter Plate 52 and the Actuator
7 Block 40 could possibly relieve any torque that's provided during the
8 friction welding process.

9 Basically, *Farley* has nothing to do with the problem of trying to
10 relieve the stress on a spindle. Basically, what *Farley* basically addresses is
11 providing a stronger clamping force so that during the friction welding
12 process, a tubular workpiece cannot basically deform and collapse during the
13 process. So, basically, what it does is it basically enhances the structural
14 integrity of the workpiece, the tubular workpiece as friction welding is going
15 on, and this doesn't address the problem of providing any relief to the
16 spindle whatsoever. Basically, the motion of the Actuator Block 40 is
17 directed to the left and the --

18 JUDGE FRANKLIN: Is the spindle at all relieved by the workpiece -
19 - directly?

20 MR. DUNCAN: Well, I mean, basically if -- the spindle drives the
21 chuck assembly, if that's what your question is. Our position is that the
22 spindle is basically -- the chuck assembly is mounted on the spindle, which
23 is clearly discussed in column 1, lines 64 through 66. It basically says that
24 the Chuck 12 is secured to a Spindle 17, which is supported for rotation in
25 the bearing assembly 18. And then again, in column 2, the very first
26 paragraph, the Chuck Assembly 12 includes a Chuck Body 31, Secure Bike

1 Cap Screws 32, to a Spindle Nose 33, which is mounted upon the Spindle 17
2 by cap screws, one of which is indicated at 35.

3 So it seems to me that it's not possible for -- whatever the Adapter
4 Plate 52 and the actuator block are doing, they cannot basically prevent
5 torque from being transmitted to the spindle since, basically, the spindle
6 nose is connected directly to the chuck body. And what you can see is that
7 as the workpiece is rotated, it basically allows the outer chuck to, you know,
8 provide a further clamping onto the workpiece and the whole arrangement of
9 the adapter plate and the actuator block move to the left to create a stronger
10 clamping force which inherently applies a force to the Chuck Body 31,
11 which then applies the force to the spindle nose, and since the spindle nose is
12 connected to the spindle, applies a force directly to the Spindle 17 itself.

13 So we don't see how, you know, the transfer of force to 40 and 52
14 provides any relief to the spindle whatsoever. In fact, the cite -- the passage
15 that the Examiner refers to basically just says that axial thrust is applied by
16 the workpiece against the Workpiece WP1 and is transferred to the Backup
17 Plate 52, and then into the Actuator Block 50, but this doesn't provide any
18 teaching or suggestion that somehow that this prevents any force from being
19 applied to the spindle directly. And that's basically our position.

20 As we discussed before, none of these references even really go forth
21 and address the problem of relieving a spindle of forces that are created
22 during the friction welding process. And a person of ordinary skill in the art
23 wouldn't look to *Farley* in view of *Takagi* because *Takagi* basically deals
24 with trying to provide two rotational pieces and controlling the rotation of
25 those pieces to create friction welding pieces that are of constant length.
26 And seeing as *Takagi* already discloses a chuck assembly, a person of

1 ordinary skill in the art isn't going to look to the teachings of *Farley* since
2 *Farley* only directs a person of ordinary skill in the art to securely fastening
3 a tubular workpiece and *Takagi* doesn't provide any teaching or suggestion
4 that there's some sort of a problem with that. And basically, you know, even
5 if a person of ordinary skill in the art would look to *Farley*, our position is
6 that *Farley* doesn't provide any teaching or suggestion for relieving a
7 spindle by using a bridge that is a part of at least one workpiece as claimed.
8 And basically, as to any other points, any other questions, I just would refer
9 to my Appellant Brief, our Brief, and as well as our Reply Brief, and that's
10 all I have unless there is [sic] any further questions.

11 JUDGE SMITH: Any questions, Judge Franklin?

12 JUDGE FRANKLIN: No more questions. Thank you.

13 JUDGE SMITH: Judge Gaudette?

14 JUDGE GAUDETTE: No.

15 MR. DUNCAN: All right.

16 JUDGE SMITH: Thank you for coming in today, and the case is
17 submitted to the record, so --

18 MR. DUNCAN: All right. Thank you very much.

19 (Whereupon, the proceedings, at 2:03 p.m., were concluded.)
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